

UJWAL NARAYAN

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EDUCATION

BTech in Computer Science and Masters by Research in Computational Linguistics
INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY (IIIT), HYDERABAD 2023
Thesis: **Towards Narrative Understanding.**

Selected Courses: Natural Language Processing, Linguistics, Data Analytics, Data Systems, Distributed Systems, Operating Systems, Principles of Programming Languages, Optimization Methods, Statistical Methods in AI
Teaching Assistant for Introduction to Linguistics 2 2020

RESEARCH EXPERIENCE

Research Assistant March 2019 - Oct 2022
LANGUAGE TECHNOLOGIES RESEARCH CENTRE *IIIT, Hyderabad*
Advised by Dr. Manish Shrivastava

- Represented narratives as interactions between characters and events.
- Automated visual character arc representations for literary works using a transformer-based pipeline.
- Worked on discourse level timeline generations and achieved a 31% increase in F1 score over prior methods.

Research Associate June 2020 - May 2022
DATA SCIENCES AND ANALYTICS CENTRE *IIIT, Hyderabad*
Advised by Dr. Kamalakar Karlapalem, Dr. Lini Thomas

- Worked on policy compliance in the Indian securities and exchanges sector, leading to 2 publications at WWW'22.
- Achieved over 97% accuracy in automated violation predictions by collaborating with legal professionals and fine-tuning a transformer model, posing the task as a multi-label classification problem.
- Funded by JP Morgan Faculty Awards, 2021 & 2022.

PROFESSIONAL EXPERIENCE

SDE (ML) Oct 2022 - Present
[LIMECHAT](#) Bengaluru

- Achieved **25%** improvement in entity extraction and search, leading to increasing conversion by more than **25%** and reducing bot confusion by as much as **10%**.
- Designed, implemented, and maintained automated content generation systems, incorporating QA and style transfer using LLM pipelines. This streamlined onboarding for new clients by **87%**.
- Developing a Hybrid (Intent + Intentless) chatbot by integrating LLMs like GPT3.5/4 with Rasa chatbots, resulting in a contextual and personalized chat experience for users. Demonstrated a reduction in confusion by over **50%**.

Data Scientist Feb 2020 - June 2022
[KLEVVU](#) Remote

- **Catalog Enrichment:** Worked on developing an end-to-end pipeline to improve search queries by enhancing the catalog through customer reviews. Implemented multiple neural Aspect Based Sentiment Analysis papers.
- **Language Enrichment:** Worked on extending language support for 15 new languages. Extended the duckling parser for these languages to extract price information from user queries in real-time. Utilized Open Multilingual Wordnet to support automatic synonym enrichment for multiple languages. Developed a transformer-based system that supports multilingual word sense disambiguation.
- **Analytics:** Built WordGraph, a tool to visualize relations between search queries to help merchants make data-driven decisions, was featured in [Forbes](#).

PUBLICATIONS

- Detecting Regulation Violations for an Indian Regulatory Body through Multi Label Classification**
Ujwal Narayan, Pulkit Parikh, Kamalakar Karlapalem, Natraj Raman
In Companion Proceedings of the Web Conference 2022
- SEBI Regulation Biography**
Sathvik Sanjeev Buggana, Deepti Saravanan, Shravya Kanchi, Ujwal Narayan, Shivam Mangale, Lini T Thomas, Kamalakar Karlapalem, Natraj Raman
In Companion Proceedings of the Web Conference 2022
- MARCUS: An Event-Centric NLP Pipeline that generates Character Arcs from Narratives.**
Sriharsh Bhyravajjula, Ujwal Narayan, Manish Shrivastava
In Proceedings of the International Workshop on Narrative Extraction from Texts (Text2Story), European Conference on Information Retrieval (ECIR)
Best paper in track 2022
- Task adaptive pretraining of transformers for hostility detection**
Tathagata Raha, Sayar Ghosh Roy, Ujwal Narayan, Zubair Abid, Vasudeva Varma
In Proceedings of the First Workshop on Combating Online Hostile Posts in Regional Languages during Emergency Situation (CONSTRAINT), Communications in Computer and Information Science 2021
- Leveraging multilingual transformers for hate speech detection**
Sayar Ghosh Roy*, Ujwal Narayan*, Tathagata Raha, Zubair Abid, Vasudeva Varma
In Proceedings of FIRE: 13th meeting of the Forum for Information Retrieval Evaluation 2021
- Detection and Annotation of Events in Kannada**
Suhan Prabhu, Ujwal Narayan, Alok Debnath, Sumukh S, Manish Shrivastava
In Proceedings of the 16th Joint ACL - ISO Workshop on Interoperable Semantic Annotation 2020

SELECTED PROJECTS

- Relational Database Management System** Dec 2020
Built a relational database management system in C++ from scratch. Implemented the standard operations such as SELECT, JOIN, GROUPBY with pagination. The system also automatically optimizes queries.
- Dependent Transformers** May 2020
Analysed the effects of incorporating source syntax for Transformer based Machine Translation in a multi-task setting. Used EuroParl corpus and compared across 5 different languages.
- Analysing the discourse around CAA** May 2020
Digital Humanities Independent Study under Dr. Radhika Krishnan. Computationally analyzed the narrative and corresponding biases around the coverage of the Citizenship (Amendment) Act, 2019, across 14 popular newspapers.
- HinDisSent: Sentence representations for Hindi** Dec 2019
Built a Bi-LSTM model on the discourse prediction task & tested the quality of the embeddings against downstream tasks. Boosted accuracy by as much as 8% using 10% of the data used by approaches like sent2vec, DeepBOW.

ACADEMIC SERVICE

- Problem Committee Member; [Panini Linguistics Olympiad](#); India's counterpart to the IOL. 2019-2023
- Local Jury Member; [Asia Pacific Linguistics Olympiad \(APLO\)](#). 2019
- Volunteer at the [International Conference on Natural Language Processing \(ICON\)](#). 2019

AWARDS AND HONORS

- Dean's Merit List Award for Academic Performance, with a perfect grade point for the year. 2020-2021
- Dean's List 1 Award for Academic Performance (top 10% of cohort) 2019-2020